

Ser. No. 10/065,436 (Travelute *et al.*) (Filed: 10/17/2002)  
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REMARKS

Applicants appreciate the Examiner's careful study of the pending application and claims.

The 35 U.S.C. §102(b) Rejection under Shiozaki

The Examiner rejected Claims 2, 4, 5 and 11-15 under 35 U.S.C. §102(b) as anticipated by U.S. Pat. No. 4,336,307 to Shiozaki *et al.* The Examiner contends that there is no evidence to support the Applicants' argument that the pore forming agent required by Shiozaki materially affects the basic and novel characteristics of the filament. Further, the Examiner states that, "If the basic and novel characteristics of the Applicant's invention is the ability to fill with a liquid, nothing added by Shiozaki impairs that characteristic."

Applicants respectfully contend that the, "basic and novel characteristic" of the invention is not simply, "...the ability to fill with a liquid. ..." The basic and novel characteristics of the invention are defined by the four corners of the claim. See MPEP 2163 (II)(A)(1). Thus, the Examiner's initial reasoning is flawed.

Furthermore, the Examiner is attempting to take the position that polyethylene terephthalate is identical to polyester blended with the R'SO<sub>3</sub>M' sulfonate (R' = 3-30 carbon alkali radicals; M' = alkali or alkali earth metal). The Examiner maintains this position even though the sulfonate is included for the specific purpose of being treated — along with the polyester — with an alkali solution. According to Shiozaki this, "partially dissolves" the polyester and modifies its hand and appearance (See Column 9, lines 55-64).

In short, an alkali-treated blend of polyester and sulfonate cannot, "consist essentially of," polyethylene terephthalate. Accordingly, Shiozaki must be removed as a §102 reference.

The Rejections under JP S57-139600

The Examiner has also raised publication JPS57-139600A authored by Hirakawa as a "35 U.S.C. §102/103" reference. First, with respect to §102, the '600A publication merely mentions that its paper-like sheet material can contain, "empty-core fibers." The mere

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recitation of an, "empty core," fails to meet the recitations of Claim 2. As noted in Applicants' specification, mere hollow filaments will not fill with water or related liquids because the presence of air trapped in the hollow core will quickly balance (and stop) the capillary effect before the filament will fill. *See* paragraph 0039.

Therefore, the '600A publication must be removed as a 35 U.S.C. §102 reference as against the pending claims.

With respect to the 35 U.S.C. §103(a) rejection, the Examiner further rejected Claims 2, 4-10, and 72-80 under as obvious over the '600A reference.

The '600A publication discloses, "...a non-woven fiber sheet having flexible and excellent texture and appearance and is used for products, such as hygiene products." *See* page 655, column 2, section 3, first paragraph. Furthermore, the '600A publication discloses that, "The inventors of the present invention ... succeeded in manufacturing extremely flexible and soft-to-the-touch non-woven fiber sheets. ..." *See* page 656, column 1, second paragraph. Yet further disclosure states that,

"The nonwoven fiber sheet made by the method of the present invention has excellent flexibility and bulkiness in addition to its favorable texture. For this reason, the fiber sheet can be used as a top sheet for diapers and sanitary pads, other hygiene products. ..."

*See* page 657, column 1, paragraph 3.

Conspicuously absent from the list of features in the '600A publication is the ability of the fiber to, "substantially fill" or to, "fill entirely" with a liquid as claimed in Claims 2 and 72 of the invention, respectively. In fact, the '600A publication teaches away from the invention by grouping that fiber with, "hydrophobic polyester fibers ... used as the top sheet for hygiene products, such a diapers and sanitary pads, in particular." By definition, "hydrophobic" means, "Repelling, tending not to combine with, or incapable of dissolving in water." *See*, "*The American Heritage Dictionary of the English Language, Fourth Edition.*"

Interpreted by one of ordinary skill in the art, the disclosure of the '600A publication

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is a hydrophobic fiber sheet suitable for use as a top sheet in hygiene and other products. This hydrophobic fiber sheet possesses a pleasing hand and is permeable to moisture (not absorbent). See page 656, column 1, paragraph 1. The hydrophobic sheet is permeable to allow moisture through the hydrophobic sheet to an absorbent layer, as is typical of sanitary product construction. It is not designed to fill with moisture in any capacity. Accordingly, no moisture absorption characteristics regarding the hydrophobic fiber is given.

As for the '600A publication disclosing empty-core fibers; this disclosure is specifically in the context of improving the flexibility and bulkiness properties of the hydrophobic fiber sheet. Accordingly, the '600A publication includes several embodiments of non-circular cross section fibers to this end. See the paragraph bridging pages 656 and 657. This disclosure is not relevant in the context of the claimed invention.

The '600A publication fails to suggest a filament or a staple filament capable of substantially filling or filling entirely with liquid. Furthermore, the '600A publication discloses a fiber sheet in the context of a hydrophobic polyester fiber, meaning that the sheet repels or tends not to combine with water. Thus, Claims 2, 4-10, and 72-80 are not obviated by the '600A publication. Therefore, the '600A publication fails as a 35 U.S.C. § 103(a) reference as well.

The § 103 Rejections under JP H3-287848 and U.S. 6,368,990

The Examiner rejected Claims 16-38 under 35 U.S.C. § 103(a) as being unpatentable over JP H3-287848 to Tamiya *et al.* in view of U.S. Pat. No. 6,368,990 to Jennergren *et al.*

The independent claims in this group (Claims 16, 29, 30, and 37) all recite specific absorption capacities in clear functional terms. Neither the Tamiya '848 reference nor the Jennergren '990 patent, taken alone or together, disclose or suggest these functional capacities.

The Tamiya '848 reference discloses a fiber conjugate comprising two kinds of polymer having a specific melting point therebetween. Similarly, the Jennergren '990 patent discloses nonwoven fabrics formed of hollow filaments and/or staple fibers formed of a

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polypropylene composition. The Jennergren reference further discloses that the hollow filaments of the '990 patent are, "...believed to form stronger thermal bonds (in the fabric and in laminate structures)...." Regarding thermal bonds, the Jennergren '990 patent also states that, "The thermal bonds can also have a greater bond area. ... This can also improve fabric strength and abrasion resistance." See column 3, lines 33 to 39.

With respect to independent Claims 16, 29, and 30, the thermal bonding step required by both Tamiya and Jennergren — especially over a large area of the filament — would destroy the absorptive capability of the instant invention by obliterating the sufficient openings that allow the substantial filling with water. Claims 16, 29, and 30 are supported in the specification with the teaching of openings that allow liquid to substantially or entirely displace air (or gas) via the principle of capillary action. See paragraphs 0039 to 0048. Thus, in light of the requirement by the cited references to melt filaments together, Applicants respectfully submit that Claims 16-38 are not obviated by references that destroy some or all of the absorptive capability of the instant invention (*i.e.*, a thermal bonding step).

Regarding Claims 16 and 28, both references are silent with respect to an absorption capability range despite a plethora of other measurements. See Tables 1, 2, and 3 of the '990 patent and Table 1 of the Tamiya '848 publication. Therefore, Applicants submit that any absorptive capability of the melted filaments disclosed in the references is unknown. Thus, the Examiner's assertion that the cited references inherently disclose the claimed absorption capability is unfounded.

Independent Claims 28 and 37 are written using the "consisting essentially of" language. Applicants respectfully submit that the thermal bonding processes required by Tamiya and Jennergren would necessarily melt at least a portion of the filament or fiber. The melting step will destroy the pores of the invention by melting them closed. This constitutes a material change that would alter the claimed moisture absorption capability.

In this regard, Applicants respectfully point out that the, "consisting essentially of" language concerns whether, "...introduction of additional steps or components would

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materially change the characteristics of applicant's invention" and does not concern anything that "impairs" the basic and novel characteristic of the filament. *See* MPEP 2111.03. That said, both references further disclose materials that materially affect the basic and novel characteristics of the claimed invention.

For example, the Tamiya '848 reference discloses a conjugate fiber comprising a core part and a sheath part. Although the core part may be formed of polyethylene terephthalate, the '848 publication also discloses that the sheath completely surrounds and is bonded (*i.e.*, melted) to the core part. *See* page 322, first column. Applying the sheath material to the instant invention will materially affect its basic and novel characteristics. Thus, the combination of the Jennergren '990 patent and the Tamiya '848 publication fails as applied to the instant invention.

#### CONCLUSION

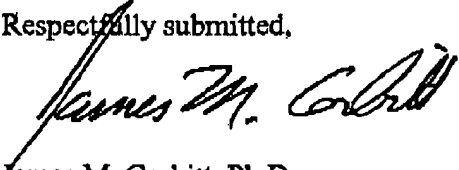
In conclusion, the cited references fail as 35 U.S.C. §102 and §103 references. The Shiozaki '307 patent fails as a 35 U.S.C. §102 reference because the pore forming agent required and described by Shiozaki will change the basic and novel characteristics of the claimed invention. The '600A reference authored by Hirakawa fails as a 35 U.S.C. §102/103 reference because the hydrophobic fiber disclosed in the '600A reference is not designed to fill with moisture. Thus, the '600A reference fails to anticipate or obviate the claimed invention. The combination of JP H3-287848 to Tamiya *et al.*, in view of U.S. Pat. No. 6,368,990 to Jennergren *et al.*, fails as a 35 U.S.C. §103 combination because the thermal bonding step required in the references will destroy the claimed absorptive capability. Furthermore, Applicants respectfully submit that any speculation as to the inherent absorptivity of thermally bonded (*i.e.*, melted) fibers in the 35 U.S.C. §103 combination—when no such data is provided by the author(s)—is inappropriate.

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Based on the foregoing remarks and arguments, Applicants respectfully submit that Claims 2, 4-38, and 72-80 are in condition for immediate allowance and respectfully request that the Examiner withdraw the final rejection.

Respectfully submitted,

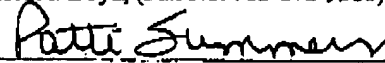


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## CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office, Technology Center 1700, Group Art Unit 1771, Attention: Examiner Jennifer A. Boyd, (Fax No. 703-872-9306) on the date shown below.

  
Patti Summers

February 28, 2005  
Date